Average precipitation and departures from the normal.

| iew England fiddle Atlantic outh Atlantic outh Atlantic orda Peninsula ast Gulf Vest Gulf who Valley and Tennessee over Lake oper Lake oper Mississippi Valley lissouri Valley     | 10<br>12<br>10<br>7<br>7<br>7<br>12<br>8 | Current month.  Inches. 1.87 1.55 2.14 2.28 5.02 8.78 8.45 8.55 | Percentage of normal.  51 48 60 105 116 115 97 | Inches1.8 -1.7 -1.4 +0.1 +0.7 +0.5           | Accumulated since Jan. 1.  Inches. — 7.8 — 5.6 — 1.9 — 11.0 — 8.7 — 6.8 |
|--|--|---|--|--|---|
| diddle Atlantic ooth Atlantic ooth Atlantic lorida Peninsula ast Guif west Guif hio Valley and Tennessee ower Lake opper Lake forth Dakots oper Mississippi Valley lissouri Valley | 12<br>10<br>7<br>7<br>7<br>12<br>8       | 1.87<br>1.55<br>2.14<br>2.23<br>5.02<br>8.78<br>8.45            | 48<br>60<br>105<br>116<br>115<br>97            | -1.8<br>-1.7<br>-1.4<br>+0.1<br>+0.7<br>+0.5 | - 7.8<br>- 5.6<br>- 7.8<br>- 1.9<br>-11.0<br>- 8.7                      |
| diddle Atlantic ooth Atlantic ooth Atlantic lorida Peninsula ast Guif west Guif hio Valley and Tennessee ower Lake opper Lake forth Dakots oper Mississippi Valley lissouri Valley | 12<br>10<br>7<br>7<br>7<br>12<br>8       | 1.87<br>1.55<br>2.14<br>2.23<br>5.02<br>8.78<br>8.45            | 48<br>60<br>105<br>116<br>115<br>97            | -1.8<br>-1.7<br>-1.4<br>+0.1<br>+0.7<br>+0.5 | - 7.8<br>- 5.6<br>- 7.8<br>- 1.9<br>-11.0<br>- 8.7                      |
| diddle Atlantic ooth Atlantic ooth Atlantic lorida Peninsula ast Guif west Guif hio Valley and Tennessee ower Lake opper Lake forth Dakots oper Mississippi Valley lissouri Valley | 10<br>7<br>7<br>7<br>12<br>8             | 2.14<br>2.23<br>5.02<br>8.78<br>8.45<br>3.55                    | 60<br>105<br>116<br>115<br>97                  | -1.4<br>+0.1<br>+0.7<br>+0.5                 | - 7.5<br>- 1.5<br>-11.0<br>- 8.7  |
| lorida Peninsula   | 7<br>7<br>12<br>8                        | 2.25<br>5.02<br>8.78<br>8.45<br>8.55                            | 105<br>116<br>115<br>97                        | +0.1<br>+0.7<br>+0.5                         | - 1.9<br>-11.0<br>- 8.7   |
| last Gulf.  vest Gulf hio Valley and Tennessee ower Lake typer Lake forth Dakots orth Dakots typer Mississippi Valley lissouri Valley  | 7<br>12<br>8<br>9                        | 5.02<br>8.78<br>8.45<br>8.55                                    | 116<br>115<br>97                               | +0.7<br>+0.5                                 | -11.6<br>- 8.7  |
| Vest Gulf hio Valley and Tennessee ower Lake pper Lake orth Dakots pper Mississippi Valley lissouri Valley   | 7<br>12<br>8<br>9                        | 8.78<br>8.45<br>8.55  | 115<br>97                                      | +0.5   | 8.  |
| hio Valley and Tennesseeower Lake opper Lake forth Dakots oper Mississippi Valley lissouri Valley  | 12<br>8<br>9                             | 8.45<br>3.55  | 97   |  |   |
| ower Lake  orth Dakota  orth Dakota  oper Mississippi Valley  issouri Valley   | 8  | 3,55  |  | -0.1   |   |
| pper Lake  | ğ  | 8,55  |  |  |   |
| orth Dakota<br>pper Mississippi Valley<br>issouri Valley   |  |   | 125  | +0.7   | 6.  |
| pper Mississippi Valley  |  | 2.29  | 105  | +0.1   | - 4.  |
| issouri Valley   | 11                                       | 0.43  | 81   | -0.1   | - 2.  |
| issouri Valley   |  | 1.97  | 95   | -0.1   | 0.  |
|  | 10                                       | 1.20  | 100  | 0.0  | 5.  |
| orthern Slope  | 7  | 0.65  | 144  | +0.2<br>+0.8                                 | - 0.  |
| iddle Slope  | 6  | 1.21  | 188  | +0.8   | ‡ <del>*</del>  |
| outhern Slope  | 6  | 1.95  | 134  | +0.5   | + 7.  |
| outhern Plateau  | 18                                       | 0.44  | 88   | -0.9   | <b>— 8</b> .  |
| iddle Plateau  | 9  | 1.06  | 78   | -0.4   | + 1.  |
| orthern Plateau  | 10                                       | 1.40  | 70   | -0.6   | 0.  |
| orth Pacific   | 9  | 7.25  | 100  | 0.0  | +11.  |
| Iddle Pacific  | 5<br>4                                   | 4.02<br>1.79  | 72<br>60                                       | -1.6<br>-1.2                                 | + 2.<br>- 1.  |

## SNOWFALL.

The depth of snowfall during the month is graphically shown on Chart VIII, and the numerical values are given in Table II.

The total snowfall for the month was somewhat less than during the corresponding month a year ago. It was rather widely distributed, however, and disappeared rapidly on account of the prevailing mild weather east of the Rocky Mountains during the first half of the month. At the close of the month a moderate cold wave accompanied by a snowstorm passed over the interior of the Gulf States. The snow covering was not more than two or three inches on the average, yet it exceeded in amount the total fall in the South Atlantic States, the eastern portion of the Middle States, and southern New England. The fall in the Lake region was moderately heavy, and this was particularly so of the Parry Sound region, as was the case a year ago. No very great depths were reported from mountain stations in Colorado, Wyoming, Montana, and Idaho.

The depth of snow on the ground at the close of the month

is graphically shown on Chart IX.

The officials in charge of the Ulimate and Crop sections in Colorado and Wyoming, concerning the snowfall in their respective States, report as follows:

Snowfall in the mountains of Colorado. - The weather conditions during October, November, and December were not favorable to the accumulation of a large stock of snow. It is true that a heavy fall was general during the second decade of October, and another about the middle of December, but the remainder of the period was characterized by an absence of local storms of consequence, and for the mountain districts as a whole the amount is below the average. Windy weather has been the exception, and, in consequence, the snow is loosely packed, and stupendous drifts, which form the basis of the flow during the summer season, are notably few. The ground was well supplied with moisture and frozen to a considerable depth before the October storm; hence it is expected that the run-off, when melting begins in the spring, will be relatively great as well as rapid.

The distribution has been very uneven over the watershed of the Arkansas. As compared with last year and the average, the fall has been very light over the northern drainage area, while over that of its southern tributaries it has been considerably above the average, and many correspondents report that the stock of snow now on the ranges is much in excess of the total during last winter.

The fall has been very close to the average over the upper drainage area of the South Platte and tributaries, but generally much less than

last year

No such scarcity of snow as characterized last winter over the Rio Grande watershed is reported this season. The average amount has fallen in the mountains of Mineral and Hinsdale counties, and on the watersheds of the tributaries rising in Conejos and Costillo counties.

Less than the normal snowfall has occurred in nearly all parts of the area drained by the Grand and Gunnison. Compared with the corresponding months of last year, the fall has been exceeding light.

Snowfall in Wyoming.—The snowfall throughout the State for December was usually below the average, but was fairly well distributed. At the close of the month many stations reported little or no snow on the ground. Over Laramie County only traces of snow remained, increasare Buffalo, and 6.5 inches at Sheridan. Over Big Horn County the amount on ground varied from little or no snow to 8 inches, the greatest depth being reported from the lower portion of the Basin. Little or no snow was on the ground over the western portion of the county. The greatest depths of snow on ground were reported from Uinta County, where from 2 to 8 inches remained over the plains and valleys.

Reports from the mountain districts show from 4 to 40 inches of snow at present, and reporters generally concede this to be less than the usual amount at this time of the year. However, snows of the later winter may augment the amount very much, and provide a bountiful supply for irrigation purposes the coming summer.

The following table gives the amount of snow reported from the eastern slope of the Big Horn Mountains and from the basins of the

Platte and Laramie rivers:

| Eastern slope of Big Horn<br>Range.        | Snow on ground<br>in vicinity of<br>place. | Average depth on adjacent bills or mountains. | Laramie and Platte basins.                                    | Snow on ground<br>in vicinity of<br>place. | Average depth on adjacent bills or mountains. |
|--|--|---|---|--|---|
| Parkman Dayton Mayoworth Griggs Kaycee Ono | 6<br>10<br>1<br>8<br>8<br>4                | 15<br>36<br>14<br>12<br>7                     | Clarkson Springhill Toltee Elk Mountain Bennett French Mandel | 5  | 8<br>6<br>12<br>60<br>13<br>15<br>8           |

Mr. Foster in his report from the Snowy Range reports 3 inches at 8,700 feet, 28 at 9,000, 36 at 10,000, and 39 at 11,000. This is more than This is more than was reported from the same locality one year ago. He says: "I find the snow drifted but little at the greater elevations as compared with other winters. Scarcely any frost in the ground. Above 10,000 feet many of the drifts of 1898-99 are still in evidence, and will add to the water supply of the coming summer. The water in the streams is nearly double the usual stage at this season. The snow of the second week in October is well packed, as well as that which has fallen in the later storms.'

The following are the dates on which hail fell in the respective States:

Arizona, 18. Arkansas, 18. California, 15, 16. Oregon, 4, 11, 12, 14, 20. Texas, 10. Washington, 7, 8, 9.

## SLEET.

The following are the dates on which sleet fell in the respective States:

Alabama, 4, 5, 6, 7, 30, 31. Arkansas, 13, 14, 30. Colorado, 4, 8, 9, 29, 30. Connecticut, 17, 19, 24. Florida, 31. Georgia, 27, 31. Idaho, 30. Illinois, 14, 23. Indiana, 7, 12, 14, 23. Indian Territory, 11, 13, 21. Iowa, 2, 3, 9, 11, 18. Kansas, 13, 17, 18, 22, 23, 26. Kentucky, 13, 14, 23. Louisiana, 30, 31. Maine, 4, 15, 22, 24. Maryland, 24. Massachusetts, 15, 24. Michigan, 1, 6, 9, 12. Mississippi, 30, 31. Missouri, 2, 3, 8, 11, 12, 13, 14, 22, 23, 26, 27. Nebraska, 2, 3, 12, 15, 29. Nevada, 8, 11, 12. New Hampshire, 11, 15, 24, 25. New Jersey, 10. New Mexico, 10, 18. New York, 3, 4, 10, 13, 14, 15, 17, 19, 21, 22, 23, 24. North Carolina, 3, 23, 24, 25, 27, 28. Ohio, 11, 14, 23. Oklahoma, 13, 21, 31. Oregon, 7. Pennsylvania, 14, 24. South Carolina, 24, 28, 31. Tennessee, 14, 24, 26, 27. Texas, 12, 14, 19, 20, 27, 29, 30. Utah, 12, 14, 15, 16, 17, 18. Vermont, 3, 4, 15, 24, 25. Virginia, 19, 23, 24. Washington, 3, 7, 8, 10, 12, 19, 21. West Virginia, 23. Wisconsin, 4, 11.

## WEATHER IN THE WEST INDIES.

The distribution of pressure, temperature, and the direction of the resultant winds in the West Indies are shown on The numerical values of pressure, temperature, etc., for West Indian stations will be found in Tables I, II, III, IV, V, VI, VIII, IX, and X.